

AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated hereafter.

Claims:

1. (Currently Amended) A method for producing high purity colloidal silica comprising the steps of:

providing a quantity of potassium silicate;

subjecting said quantity of potassium silicate to ~~an ion~~ a cation exchange process to remove a first portion of potassium therefrom to produce a quantity of colloidal silica; ~~and~~

washing said quantity of colloidal silica with water in an ultrafiltration device to produce a quantity of high purity colloidal silica; and

adding a hydroxide base while washing said quantity of colloidal silica to maintain a desired pH and cation concentration.

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2. (Original) The method of Claim 1, wherein said quantity of potassium silicate has a sodium concentration of less than about 100 ppm.

3. (Original) The method of Claim 1, wherein said quantity of colloidal silica has a sodium concentration of less than about 10 ppm.

4. (Original) The method of Claim 1, wherein said quantity of high purity colloidal silica has a sodium concentration of less than about 1 ppm.

5. (Currently Amended) The method of Claim 1, wherein said quantity of colloidal silica consists essentially of an aqueous suspension of silica particles having a size generally between 8 nanometers and ~~200~~ 300 nanometers.

6. (Currently Amended) The method of Claim 1, wherein said ~~ion~~ cation exchange process step includes the step of contacting said quantity of potassium silicate with a cation exchange resin.

7. (Original) The method of Claim 6, wherein said cation exchange resin is selected from the group consisting of carboxylic resins, sulfonated natural materials, and sulfonated styrene-dibenzene copolymers.

8. (Previously Amended) The method of Claim 1, wherein said ultrafiltration step includes the step of washing said colloidal silica with deionized water.

9. (Original) The method of Claim 8, wherein said ultrafiltration step further includes the step of adding potassium hydroxide to said concentrated colloidal silica to maintain a desired pH and cation concentration.

10. - 17. (Cancelled)

18. (Currently Amended) A method for producing high purity colloidal silica and a high purity potassium salt hydroxide, said method comprising the steps of:

providing a quantity of potassium silicate;

subjecting said quantity of potassium silicate to an ~~ion~~ cation exchange process to remove a first portion of potassium therefrom to produce a quantity of colloidal silica and a potassium enriched ion exchange resin;

washing said quantity of colloidal silica with water in an ultrafiltration device to produce a quantity of high purity colloidal silica;

regenerating said potassium rich ion exchange resin with an acid to produce a potassium salt ~~stream~~ solution; and

subjecting said potassium salt ~~stream~~ solution to evaporation and crystallization to remove a ~~portion~~ of sodium therefrom to produce a quantity of high purity potassium salt solution;

subjecting said quantity of high purity potassium salt solution to electrodialysis and/or electrolysis to produce a high purity solution of potassium hydroxide; and

adding a portion of said high purity potassium hydroxide solution while washing said quantity of colloidal silica to produce a high purity colloidal silica, suitable for use in the manufacture of CMP slurries.

19. (Original) The method of Claim 18, wherein said ~~quantity~~ of colloidal silica has a sodium concentration of less than about 10 ppm.

20. (Original) The method of Claim 18, wherein said ~~quantity~~ of high purity colloidal silica has a sodium concentration of less than about 1 ppm.

21. - 22. (Cancelled)

23. (Currently Amended) The method of Claim ~~22~~ 18, wherein said ~~quantity~~ of high purity potassium hydroxide solution has a sodium concentration of less than about 100 ppm.

24. (Currently Amended) The method of Claim ~~22~~ 18, wherein said ~~quantity~~ of high purity potassium hydroxide solution ~~salt~~ has a sodium concentration of less than about 10 ppm.

25. (Cancelled)